

Information and Communication Technology

Class Seven



NATIONAL CURRICULUM AND TEXTBOOK BOARD, BANGLADESH

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Information and Communication Technology

Class Seven

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Preface

The aim of secondary education is to make the learners fit for entry into higher education by flourishing their latent talents and prospects with a view to building the nation with the spirit of the Language Movement and the Liberation War. To make the learners skilled and competent citizens of the country based on the economic, social, cultural and environmental settings is also an important issue of secondary education.

The textbooks of secondary level have been written and compiled according to the revised curriculum 2012 in accordance with the aims and objectives of National Education Policy-2010. Contents and presentations of the textbooks have been selected according to the moral and humanistic values of Bengali tradition and culture and the spirit of Liberation War 1971 ensuring equal dignity for all irrespective of caste and creed of different religions and sex.

The present government is committed to ensure the successful implementation of Vision 2021. Honorable Prime Minister, Government of the People's Republic of Bangladesh, Sheikh Hasina expressed her firm determination to make the country free from illiteracy and instructed the concerned authority to give free textbooks to every student of the country. National Curriculum and Textbook Board started to distribute textbooks free of cost since 2010 according to her instruction.

The government has been working hard to make the life of the people of Bangladesh easy, comfortable and cheerful by implementing the Digital Bangladesh using information and communication technology based education. So Information and Communication Technology subject has been made compulsory from class VI to XII in the National Education Policy. To give the purpose forward the curriculum and textbook have been developed. We hope this textbook will impart information and communication technology literacy to the students and develop in them a keen interest that will play an effective role in making Digital Bangladesh.

I thank sincerely all for their intellectual labor who were involved in the process of revision, writing, editing, art and design of the textbook.

Prof. Narayan Chandra Saha

Chairman

National Curriculum and Textbook Board, Bangladesh.

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First Chapter

Information and Communication Technology in Daily Life



After completing this chapter, you will be able to :

1. explain the use of information and communication technology in daily life;
2. identify the fields of using information and communication technology in workplace;
3. analyse the importance of information and communication technology in workplace;
4. evaluate the impact of information and communication technology in social life;

Lesson 1: Information and Communication Technology in Personal life

New technologies frequently come into being in this world though we do not get the information right away. So it does not have any impact on us, but information and communication technology is such a kind of advanced technology which has immensely been influencing our lives since its invention. In this world, there is no one who has not used this technology, or it has not brought about a change in his life.

Information and communication technology is not only used in important state-affairs and in the international events, but also in the lives of common beings. If you look around, you will watch that the people of your acquaintance, kin, teachers, classmates, and you yourself in one way or another are using the technology. The textbook which you are reading right now is written by someone, printed by using the information technology, and thus brought before you. So you can read it. There are plenty of examples like this.



Anybody around us can communicate with others over mobile phone whenever he likes.



Television is the most widely used medium of entertainment

If we try to make a list of multifarious uses of information and communication technology in a man's life, it will never end. In spite of that, let us at least try to record the significant events of his life strongly influenced and guided by this technology.

Personal Communication: The very first instance of using information and communication technology may be personal communication. Almost everyone uses mobile phones, and they can communicate with anyone over mobile phones whenever they like. Perhaps you can realise that our life standard has been on the up and up since communication with others over telephone has been easier. Now we can do any job with less effort that was unimaginable before.

Entertainment: Nowadays, information and communication technology is not only a way of communication but also an enticing medium of entertainment. Previously people had to purchase a separate machine to



GPS can locate any place
on earth

enjoy music, but right now, they can listen to music in mobile phone. Once camera was solely a commodity of the rich people, but now the common beings can take photographs and make videos by using mobile phone. It's gradually being an intelligent device that can manage to do works of different varieties. In the same way, the computer is gradually being small in size, i.e. from desktop to laptop, laptop to notebook, and notebook to smart phone. It means that we are going to have such an advanced device by which we can perform innumerable jobs.

GPS (Global Positioning System): The precondition of going anywhere by a transport is to know the road links. How can a man reach the destination without knowing the road communications? But it is very amusing that nowadays he does not need to know the road links before going anywhere. By analysing the signals transmitted through the satellites moving round the earth, he can easily locate where he is, and by inserting a map in it, he can go anywhere he likes. All the new vehicles have GPS device that shows the driver the way he chooses to go.

Group Activity

Suppose that you have decided to stay out without using any technology. Make a list of things that are impossible to do without its help.

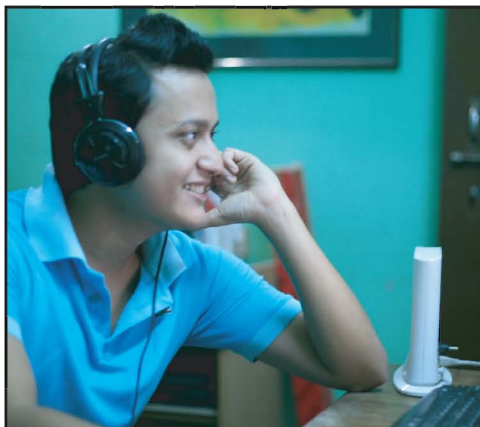
Vocabulary: Desktop, Laptop, Notebook, Smartphone, GPS

Lesson 2: Information and Communication Technology in Personal Life

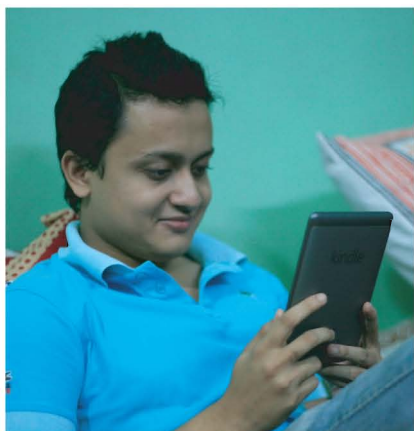
We use information and communication technology all the time in our personal life. We are so accustomed to using the technology that we do not even notice its inevitability carefully. We can make a list of the activities of an imaginary figure to understand how far the use of this technology has its impact on us. Suppose, the name of the man is Sagar.

He woke up with the sound of the alarm set at 6 am in his mobile phone. Getting off the bed, he suddenly remembered that it was a holiday. He did not need to go to the office. When he was switching off the alarm, the desk calendar caught his attention and reminded him that it was the birthday of his friend, and there was a celebration party in the afternoon at his residence.

Having got his face washed, he took the breakfast and watched the morning news on television. His heart rejoiced at the news of a bumper paddy crop this year. Again, he felt a bit concerned as a depression in the Bay of Bengal might turn into a cyclone.



Enjoying music by computer



Reading book by using e-book reader

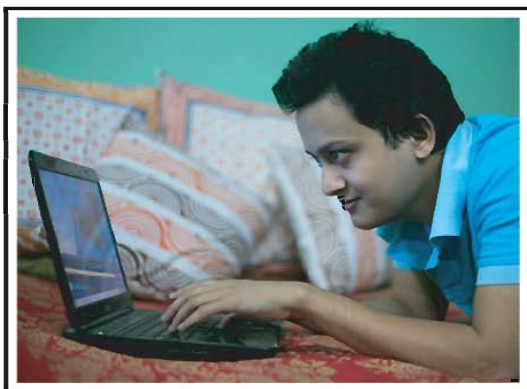
Having completed his breakfast, he busied himself with his laptop. At first, he checked his e-mail box. His brother living abroad had sent a family-photograph that was very pleasant to look at. Sagar decided to fix it to the wall after giving it a nice framing.

He started playing some of his favorite songs after sending replies of the messages through e-mail. Then he started reading a book in his e-book reader. He could not guess how the time passed away.

When he finished reading the book, it was

late. He suddenly remembered there was nothing to eat at home, and he forgot to do the shopping. Then it came into his mind that he could order through the Internet for supplying food. They would send it through home delivery. Sagar instantly ordered for his favorite pizza through the Internet.

After some times, a cheerful young man came to his residence with the pizza. 'Did you have any problem getting my house?' Sagar asked him. 'Not at all, I inserted your address on GPS which directed me the way to your house,' he replied.



You can communicate with the whole world by using the computer network sitting in your room

Sagar again roamed around the websites and collected the latest news of the world while he was taking bites of pizza. An amazing piece of news of science regarding neutrino was published. He did not know what neutrino was. So he visited the website and read an informative article about neutrino in wikipedia. Not only that, a movie had been a blockbuster recently, and he thought it was not a bad idea to watch it. He started downloading the film forthwith to watch it in the night.

Sagar would go to attend the birthday party of his friend in the afternoon. He should give something to his friend as a gift. His friend likes to read books. So he ordered for a book through the Internet, and it would be delivered in time. He also ordered a book for himself. He checked the balance of his account and transferred some money from his savings to checking account.

When he was about to leave the room, his mobile phone rang. It was a call from his mother. 'How are you, mother?' Sagar asked her. 'Well, but the power of your father's spectacles is supposed to be changed immediately. He can't see anything clearly,' his mother replied.

'Don't worry. I'll come home in the next week, and take father to an eye specialist.'

Group Activity

Make a list of the works possible to be done by the computer, but are not mentioned here

Sagar booked a train-ticket over mobile phone after he had finished talking to his mother. He will inquire about an eye-specialist at e-treatment centre in the night.

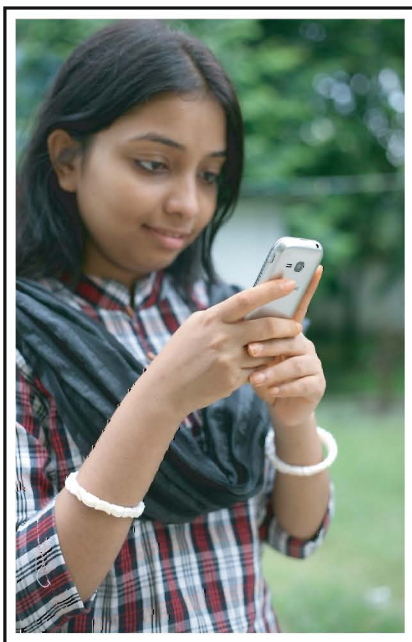
They enjoyed the birthday party at the house of his friend. The kids were playing games on the computer with making a real hullabaloo. Sagar returned home after the feast and went to bed earlier. Lying on bed, he watched the news on television, and knew that the picture received from the satellite showed that the cyclone changing the direction moved to another way. So it was no longer a threat to the country. Sagar felt relieved, and went to sleep in a relaxed mood.

The imaginary account of the life of an imaginary man is ended herewith. Have you noticed how many urgent pieces of business he did by using the information and communication technology? Could any body guess it just before a few days?

Vocabulary: e-book reader, wikipedia, download, e-treatment centre

Lesson 3: Information and Communication Technology at workplace

You know that the learners usually after finishing their education in school go to college, and from college to university. We have many public universities in our country. After completing the HSC examination, students have to sit for the admission test to get entry into the universities. Once, the admission procedure was very complicated. They had to go to the universities traveling by either bus, or train, or ship, and queue up to collect the forms. Again they had to sustain the toil of going to the universities physically to submit the forms after filling up and the fees to collect the admit cards. After the admission test and the assessment of the answer scripts, the result would publish in the newspaper, and the qualified students got entry into the universities.



The entry process into school, college and university can be initiated by sending SMS through

In 2009, Shahjalal University of Science and Technology decided to conduct the whole admission process through information technology, and not a single piece of sheet would be used for any work. The candidate did not need to come out of room for the registration. The prime minister of Bangladesh formally inaugurated the admission process that did not require a single piece of paper on August 21, 2009. All the schools, colleges, universities have been using information technology for admission since then onwards. Every one can complete the whole entry procedure only by using a mobile phone. A mammoth task has become as easy as pie.

Group Activity

What are the requisites to make your school office a paperless working Place?

Though the concept of doing all official jobs without papers has just been initiated in our country, it is not new at all. In 1975, an article regarding this concept was first published in a magazine called Business Week, but

then it sounded like a science fiction as everyone of the office required a personal computer to materialise the idea. What once was beyond imagination is now a reality. Now many offices have been turned into a paperless office where no one writes anything on sheets of paper, just writing on computer sends to the official concerned. All the computers are connected with a single network, so, all the works are done in the twinkling of an eye. As

paper is not used, the cost is saved as well. Paper is produced from trees. As paper is saved, trees are saved too, and the environment remains fresh. Since ink and toner are not used in writing on papers, chemical substance can not pollute the environment.

Computer monitors are being bigger than it was before with the passage of time. So reading on the screen has been easier. New generation usually prefers to write in computer than to write on paper. They even prefer to read on monitor. Once,



The electronic voting machine designed by the technologists of the country is successfully used in polling

photos were printed with chemicals after taking the snaps on camera. Nowadays people can directly have a look of the photographs either on computer or on camera screen before getting the print.

The most amazing work being done in our country without paper is polling through electronic voting machine. It's a democratic country where everything is determined by public opinion. We have to vote in the election for which we need ballot papers, that is paper where the names and the symbols of the candidates are printed. The voters put the seals on the ballot papers, fold it, and put it in the ballot box. After the election, votes are counted manually.

There is no such hazard in electronic voting machine. The voters can enfranchise just pushing a button or touching a screen. As soon as the time is over, people get the result instantly as it produces a tabulation of the voting data stored in a removable memory device and gives a printed copy. You will be pleased to know that many crucial elections of our country were conducted by the EVM.

Group Activity

Arrange a debate between two groups of students on the merits and demerits of using EVM in polling.

Vocabulary: Toner, Electronic Voting Machine

Lesson 4: Information and Communication Technology at workplace

If it's an advanced step of information technology to run the office works without white sheets, what will be the next step?

Perhaps you have already guessed that we will successfully be able to do the official works without going to office. If we do all the works with the computer, and if they are connected through a network, what if we work sitting in office or lying in bed at home? It does not make any difference, and that is the new concept of an office. In 1983, it was extensively discussed, and in 1994, an office of this concept started working. Those who are the

employees do not physically go to the office, but successfully conduct the office works. Office of this nature is called **virtual office**.



A huge call centre

All the offices can not be turned into virtual offices, but those that can be transformed are sure to be benefited in many ways. Firstly, they need not to erect multi-storey building for office set up. They need not to reach at the office bulldozing everyday with the traffic jam. He can simultaneously do the house and the office works. In the conventional offices, employees work for a certain time, but in virtual offices, it is possible to continue work after the fixed time. So the bulk of works in virtual offices can easily be larger than that of the conventional offices.



Youth of today do not work since 10 am-5 pm going to office. Rather they like to work staying at home

The amazing facilities of a virtual office are yet to describe. Those who work at conventional offices have to remain closer.

As the employees of a virtual office need not to be present physically, he can stay anywhere. So the employees of an office may live in different cities. Many offices run in this way. The

earth moves round in its axis. That is why, when there is day in one hemisphere, there is night in the other hemisphere. When the people of half the earth sleep, the people of another half work, and vice versa. Thus, works are going on 24 hours.

Now we frequently hear about call centres, and initiatives are taken to set up call centres in our country. There are various types of call centres, and their nature of work is different too. Suppose that somebody has purchased a computer that is not functioning well. He may phone to the company authority for having right instruction on troubleshooting. It seems to him that the man answering his queries is a distant one. Perhaps the phone call has gone to a remote call centre in another part of the world. The people present

Group Activity

Make a list of what you require to make a virtual classroom in your school

there know well the answers of what he wants to know. Thus, his problems are solved and he himself becomes satisfied as well. Nowadays youth of our country

do not like to work since 10 am-5 pm going to office. They rather like to work freely staying at home. Then the periphery of their work remains confined neither to their own city nor to their country, but the whole world becomes his work field. They not only enjoy their job, but also earn a lot. Only a personal computer and an internet connection are required for having all the facilities, but it is true that he should be skilled in computer programming.

So you can understand that employees of an office need not to assemble together to work as a cohesive unit. Do you know that the people who wrote the book you are reading did not confer together, completed the whole task just sitting at home?

Vocabulary: Virtual Office, Call centre, Paperless Office

Lesson 5: Information and Communication Technology at workplace

Certainly, you know that Bangladesh is now making large marine vessels and exporting in different countries. Many big rivers flow through this beautiful country. The people of this country are brought up in the midst of rivers, canals, marshes and seas. So it is not surprising that one day they will make marine vessels.



Industrial robot is now doing the dangerous mechanical works

Cutting large sheets of metals into particular size and shape, and welding them together large vessels are made. Perhaps, you have watched the act of welding at the roadside sheds. If anybody directly looks at the sparks, he will certainly damage his eyes. Those who do the welding works wear a particular type of glass. A tremendous heat is created and tiny pieces of metal scatter around when welding work is done. Will it not be good if this risky job is done by robots, not by human beings?

You will be happy knowing that man is shifting the responsibilities of risky jobs on the shoulder of the robot. Men become tired of doing the same job day after day. It is monotonous, and they do not like to do it either. But the robots do not get tired of working. They do not even complain about the monotonous job. So human beings have no longer been working as labourers in big industries of the world. The robots do the heavy works, and the human beings only monitor it. They can skillfully get the risky jobs done, and with the passage of time, machines will do the heavy jobs instead of human beings by using information and communication technology.



This car runs without driver

Many accidents occur in our country everyday, but it is

predicted that accidents will come to a stop after some decades since human beings will no longer drive the vehicles. In future, information based devices will control the movements of vehicles. Though it is yet to be used in road transports, it is already being used in air traffic. When the big aircrafts fly in the sky, the pilots do not have to do anything. The computer controls everything. Now the fighter aircrafts do not have any pilot. It is frequently known from the sources of newspapers that the drone aircrafts are fighting and dropping bombs on targets everyday without being controlled by the pilots.

If we make a list of how information and communication technology is being used in our workplace, it may not end at all. It is already said of running the official communication through information technology, but the official meetings are now held in using this technology too. Officials of different offices make conference sitting their own workrooms. The



This aircraft flies in the sky without a pilot

The concept of e-class room is instituted in our universities. Innumerable people of the country will attend the class of an e-class teacher when he teaches in his classroom. Office management can not be imagined without information technology. Once long time was required to move a file from one office to another, but an electronic file can move from one place to another in a twinkling.

Group Activity

Make a list of what you require to make a virtual classroom in your school

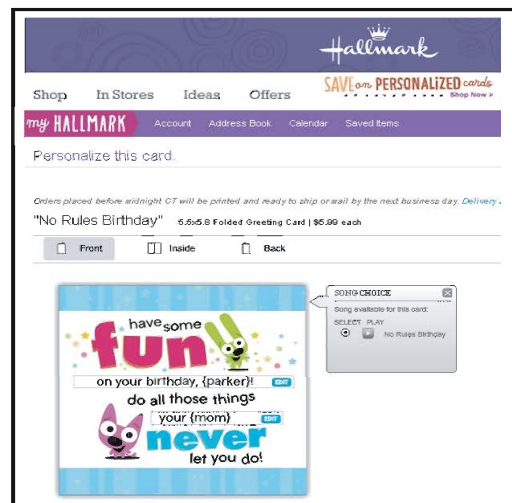
The most important job of an office is to keep the accounts. Now they have neither to handle big ledgers nor to do anything manually since information technology provides all the facilities to accomplish everything instantly by the computer.

In workplaces, people have to talk, confer and arrange seminars, but all these could be done so easily that sometimes we become surprised at thinking how it was done previously.

Vocabulary : Robot, Drone aircraft, e-classroom

Lesson 6: Information and Communication Technology in Social Life

ICT for Developing Social Relations: We live in society. Either you or your friends may live in city or in periphery, and some of you may stay in school hostels. Our society consists of parents, grandparents, relatives, friends and others. Some of them are service holders, some are businessmen, some are learners, and some stay at home. The society advances through the reciprocal activities and relationships among people. We use different kinds of tools for different purposes. Once people had to move physically from one place to another just to convey a message, and later an urgent piece of information was circulated through drumbeats. When they learnt how to write, they would communicate through writing letters. Thus the postal department was established, and the system of delivering letters from one place to another came into being. The invention of telegraph and telephone made all these things easy. Now information and communication technology (ICT) has brought all the social needs within the reach. Innumerable websites of social communication are opened on the Internet to make these social activities easy along with the conventional tools of ICT.



E-cards may be very attractive, and as paper and ink are not used, it's environment friendly.

The followings are the examples of how the social relationships are being flourished by the use of ICT:

- Invitation to social functions: Once, people used to invite friends to social functions either by letters or over telephone calls. Now we can invite people through e-mails and short messages (SMS). The advantages of sending e-mails or SMS are that the receivers need not to be present on the other side of the computer or phone when the invitation is sent. He can open and see it at his convenience.
- Greeting on special days: You can send greetings to your friends on their birthday, or on the occasions of Eid, Christmas, and Puja. You can send cards

them who stay around you, but what about those who stay abroad? You can send cards to them by post, but all send e-cards now. You can send e-cards in two ways. Designing your own e-card, you can email it, or picking one from a website of e-cards, you can send it to your friend. You have to spend nothing for that. Rather your friend or relative gets the greeting card through the Internet. Again, SMS through mobile phone is very popular right now. You can easily convey your greetings, concern or anxiety to your friends. Nowadays a new tradition to greet friends by playing favourite song on FM radio is very much in vogue. The social ties become stronger through these activities.



There are many attractive websites in the Internet for preserving and sending images



A video in Youtube

sent to the dear ones. There are many websites in the Internet from where you can upload films and share with others. Picasa of Google and flicker of yahoo are the most popular among all these websites. You can project your recorded videos before the world through video sharing sites. www.youtube.com is the most favorite of the sites like this kind.

C.Preservation and Exchange of Memorable Events: We have a tradition and culture of preserving and exchanging memorable and important events since long. Those who have ability can record the programme on video. Now mobile phones with built-in camera and video camera are available in the market. So, it is possible to record and preserve any significant moment for the future. Again, these digital video clips can be

Group Activity

Invite the guests to a function of your class by using SMS through mobile phone

Lesson 7: Information and Communication Technology in Social Life

Websites of Social Communication: Information and Communication Technology has made our social communication fast, attractive and effective. Besides, many of our social affairs are included into the Internet protocol. It is



Millions of people use facebook

as said in the previous lesson that if you want to communicate anything with your dear ones, you yourself have to send either the email or SMS. But if it happens that what you are doing is automatically being known to your friends, how do you feel then? Some websites of social communication came into being from this idea. Information of social functions, professions, liking and disliking, photographs or videos of family affairs etc. can easily be shared through one of those sites. Currently we have hundreds of websites of this nature. www.facebook.com, www.twitter.com, www.zooppa.com, www.myspace.com are very popular among them. People of almost all the languages of the world use these websites.

Of those, the facebook is used most. Millions of people are using facebook. The number of users is gradually increasing in Bangladesh. Every user can create a self-introducing webpage either in the facebook or in similar websites. The user gives the information of himself and displays his photographs, videos etc. in his profile from where he finds out his friends. Here friend is not meant in the conventional sense. According to the facebook, how many friends a man of his acquaintance has will all be his friends. If your friend has a facebook profile and if you ask him to be your friend, you will be friends after getting his consent. Similarly, if anybody sends you request and you accept it, you will be friend too. Thus, you and your friends together will build up your 'network' i.e. 'social network'.

Now your network will be gradually bigger and bigger. You can find out your

primary school classmate who, perhaps now living in Australia, was detached from you for a long time. When you will post any information in your profile, it will instantly be visible in a corner of your friends' webpage. The feeling you send is called 'status' in facebook and 'twit' in twitter. If you like to display any photograph or show any video that can immediately be watched by everyone connected in your network after adding in your profile. Besides, your facebook will remind your friends of your birthday. Then all will greet you. Not only your personal emotions, but also the advertisements of commodities, circulations of jobs are sent through these



**It's a very familiar way of exchanging
view by using twitter**



**Mass movements were organised in many countries of the
world by using social network.**

social communication websites. Even, social movements are being organised through it. It is widely supposed that these websites played a very vital role in organising the social revolution in the Arab world, especially, in Tunisia, Egypt and Libya in 2010-11.

Group Activity

Write what you can do new by using a social network like facebook.

Vocabulary: Profile, Social network, Status

Sample Questions:

1. What invention does facilitate the vehicle drivers the location of the ways during travel?
a. Computer b. The Internet c. Mobile phone d. GPS
2. Which technology will we use to know about Neutrino?
a. Computer b. The Internet c. Land phone d. Mobile phone
3. By using Information and Communication Technology, we can ?
a. read book
b. make banking transactions.
c. play games.

Which one is correct?

- a. i b. i & ii c. ii & iii d. i, ii & iii

Read the chapter below, and answer the question nos. 4, 5 & 6:

Reba has successfully qualified in the HSC examination this year. She wants to get herself admitted into a university. After watching the advertisement in the newspaper, he instantly applied to the university of Dhaka and Jahangir Nagar for the admission test.

4. Reba can apply by ?
- i. using mobile phone.
 - ii. using the Internet.
 - iii. using the computer.

Which one is correct?

- a. i & ii b. i & iii c. ii & iii d. i, ii & iii

5. The advantage of this application process is ?

- i. saving time and money.
- ii. lessening physical exertion.
- iii. protecting environment.

Which one is correct?

- a. i & ii b. i & iii
c. ii & iii d. i, ii & iii

6. What's the name of the technology Reba used to apply for admission?

- a. Mobile technology b. ICT
c. The Internet d. Computer

7. Explain with reason why you picked the answer from the options given to the question number 6.

Second Chapter

Computer Oriented Devices



After completing this chapter, you will be able to :

1. describe the activities of different computer devices.
2. explain the interrelations of different computer devices.
3. identify the devices after drawing their pictures.

Lesson 8: Input Device

You became familiar with different devices of ICT in class VI. Now you will know details of the devices in this lesson.

The computer devices are always being upgraded. The most modern device of today becomes old tomorrow. Besides, technological innovations are frequently coming into being. Think of the remote control device of the television. In future, we will get such technology-assisted television that will be operated only by oral commands. Are you caught by surprise? It's possible to give input by oral commands now. In that case, the remote control device will be outdated. Technology is changing fast. Now you are reading in class VII; when you will be promoted to higher classes, most of the devices will be housed in the museum. In spite of that, we have to know about the conventional devices being used right now. Though devices will be changed, the concept of input, storage, processing and output will not change.

Keyboard: The most commonly used input device into the computer is keyboard. Input is usually given in all the devices of Information and Communication Technology through keyboard. Some commands should be given to have the works done by these devices. We enter the commands into the computer by pressing the keys or buttons of the keyboard, and then the devices work as per the commands.

The concept of modern keyboard came from typewriter machine. Letters, numbers and characters are arranged in a line on keyboard. Although the computer keyboard is similar to that of the typewriter, it has some additional keys for producing actions and commands. Usually English letters and characters are engraved on the keys, but keyboards of other languages are also available in the market. Recently, Bangladesh Government has ordered to add Bengali layout to mobile phone of all brands.



Computer keyboard

Mouse: You have already used a device called mouse. It's a very popular input device. It is also called the pointing device. Those who invented it first thought that it looked like a mouse. That is why it was called so.



Mouse

Mouse has usually two buttons and a scroll wheel. These buttons are used in different ways to enter inputs in the computer. Different kinds of mice are currently being used in the world. Common users use standard mouse.

The positioning of mouse is shown on the monitor of a computer by a pointer that looks like an arrowhead. The positioning is changed with the movements of the mouse. Commands to the computer can be given by pressing the right button. The mouse is most commonly used in graphics based operating system. Usually a programme is selected by clicking the left button of the mouse taking the pointer on the icon of that programme, and a fast double click opens it. In a laptop, the touchpad does the works of a mouse.



Microphone:

Microphone:

It's also an input device. We can enter our speeches, songs and any kinds of sounds into the computer through this device. We notice its popularity in the Internet based communication. It was invented long ago as it had been using in telephones. Now it is being used as

an input device to the computer. We use microphone for voice recognition too.

Group Activity

1. Represent after writing the names of the devices that have keyboards though not mentioned here.
2. Make a uniformed list from the representation of every team.

Vocabulary: Scroll wheel, Icon, Voice recognition, Microphone

Lesson 9: Input Device

Digital Camera: A very familiar as well as popular device of these days is digital camera. Its use as a computer input device started long after its invention. At first, it was used in exploration, especially in the exploration of space, but now all types of digital cameras are being used as input devices to the computer. By connecting it to the computer through a USB port, digital pictures are allowed to enter directly into the computer.



Digital Camera



Webcam

Webcam: Webcam or Web Camera is another form of digital camera. It is connected to the computer as a hardware. The webcam of laptop is built-in. Stills or video images recorded by this device can easily be input into the computer. Computer users can directly share photographs or videos among themselves by using webcam through network. Webcam is used in social websites in exchanging views. It is mostly used by allowing the computers to act as videophones and video conference stations. The common use of it as a video camera for the World Wide Web gave the webcam its name.

It is also used for security surveillance in the important establishments of the state, in government and private organisations and in residences. Since the camera is directly connected with the computers, it always feeds video images to a computer or computer network, and the images can be preserved in the computer. Later, criminals can be detected by watching the videos. In our country, this device is used to control crimes.

Scanner: Once we would make copies of documents by photocopiers, but we had to use the machine as many times as we needed to copy. The information was not kept preserved. The machine that solved the problem is called scanner. Scanner is the name of the machine that makes digital images of photographs, printed or written documents. These digital images can be stored in computer.



Scanner

OMR (Optical Mark Reader): OMR is the abbreviation for Optical Mark Reader that is also an input device. It can understand information by analysing the reflection of light. The nature of its working is like that of a scanner.



Optical Mark Reader

It is now familiar almost to everyone as it is mostly used in evaluating the answer sheets of objective questions in competitive examinations. The positioning of circles of right answers is previously stored in the memory of the computer. If the candidates fill up the circles of right answers, he will get the credit. Wrong filling up of circles, even with the right ones will not give any credit. This system has provided the facility of assessing thousands of answer scripts in a very short time. There is no possibility of anomaly or partiality in the evaluation. That is why, it is very popular.

Group Activity

Represent after writing the names of the devices that have cameras though not mentioned here.

Vocabulary: Webcam, Digital camera, Scanner, OMR

Lesson 10: Memory and Storage Device

We learnt many things about Memory and Storage Device in class VI. Now we will know details about the device. At present, Memory and Storage Device is used not only in the computers and mobile phones, but also almost in all the technological commodities. Modern technology based commodities are operated by microprocessors that work on some commands. Memory and Storage Device is required to store these commands.

Memory is very essential for the right operations of the computer, smart phone, game console and the machines like these ones. Memory is of two kinds: primary memory and secondary memory. When CPU (Central Processing Unit) processes the data, the necessary information or software are stored in primary memory. Primary memory being very fast can work quickly keeping pace with the CPU. Primary memory is of two kinds: RAM (Random Access Memory) and ROM (Read only Memory). The capacities of primary and secondary memory are expressed in two ways, one through dynamic power or Hz and the other is storing capacity or byte.

8 bits = 1 byte

1024 bytes = 1 Kilobyte

(1024×1024) bytes = 1 Megabyte

(1024×1024×1024) bytes = 1 Gigabyte

(1024×1024×1024×1024) bytes = 1 Terabyte

RAM: RAM is connected to the motherboard of the computer and smart phone. The processor primarily stores data in RAM. Later, the processor processes data from the RAM. As the processor can

collect data from anywhere of the RAM, it is called Random Access Memory. Now the capacity of the processor has tremendously increased and the software become complex and effective, so, they use a vast area of memory, and now modern computers require at least a memory space of 2 gigabytes. The speed of RAM becomes

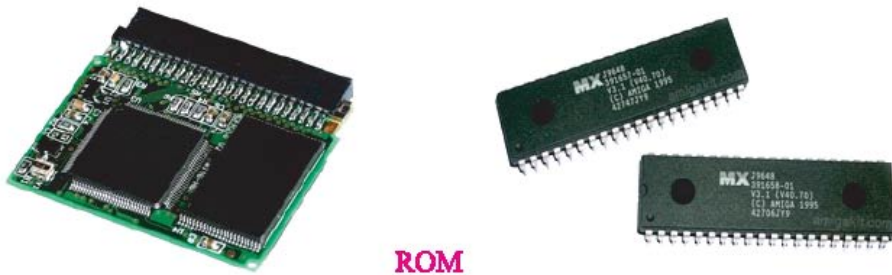


RAM

faster to cope with the speed of the processor.

You should know that stored information in RAM is lost if power fails or is removed i.e. RAM stores data when the computer is on. As soon as the computer is shut off, the RAM does not have any data.

ROM (Read Only Memory): ROM or read only memory is also connected to the motherboard. Commands are required to keep ICT devices or the computer software operative. Computer does not run without these commands. These commands are permanently stored in the ROM. Storage of memory does not depend on the power. Since it can only be read, it is called ROM (Read only Memory). It is also called permanent memory as stored data can not be modified, or new data can not be added in it without applying different procedures.



Group Activity

Making two groups and naming them as RAM and ROM, arrange a debate to specify which one is important for the computer.

Vocabulary: Microprocessor, Bit, Byte

Lesson 11: Memory and Storage Device

Hard Disc: Perhaps you, who use the computers, know about the hard disc, often called a 'hard disc drive'. An open file on computer is stored in the hard disc. It's the main device of storing data. The IBM computer company first used hard disc in the mainframe and mini computer to store data in 1956. The distinctive feature of all the ICT devices is data storing. Today's computers usually come with a hard disk ranging 500 gigabytes to 4 terabytes of storing capacity. Even a mobile phone has the hard disc of gigabyte capacity. But you will be surprised at hearing that the size of a hard disc of 1 gigabyte capacity was as big as a refrigerator in 1980. Its price was high too. 15 thousand dollars had to spend for per megabyte. It's not a fairy tale, rather it was the reality. But today's hard disc drive is so tiny that it fits into the palm of the hand.



Hard disc drive

Usually a hard disc contains a set of stacked discs that are called platters made of either aluminium alloy or glass or ceramic on which an electromagnetic coating is given. Data is stored on it. When the hard disc runs, the platters spin, and two heads, one on each side of a disk, read or write with the spinning.

Hard disc is very popular for its enormous capacity of storing information. It's of two kinds: one is built-in, another is separated which is called external hard disc. It can be connected to the computer, desktop or laptop, through a USB port. Thus, the external hard disc can be carried to transfer mammoth data from one place to another.

CD/DVD: CD (Compact Disc) or DVD (Digital Versatile Disc or Digital Video Disc) are very familiar with you. You have read in class VI how the rainbow can be viewed by it. A thin layer of aluminium is applied on lower portion of the CD or DVD, and is protected by polycarbonate plastic from either side. Sometimes, gold coating is given on the surface to make it reflective. Laser ray is used to store and read data on CD or DVD. The head of it is nothing but a

device of creating laser beam that stores data on aluminium layer, and can read when required. CD and DVD are very popular right now for (1) its data storing capacity; (2) portability; (3) durability; (4) cheapness and (5) convenience. DVD is more powerful in storing data than

laser beam that stores data on aluminium layer, and can read when required. CD and DVD are very popular right now for (1) its data storing capacity; (2) portability; (3) durability; (4) cheapness and (5) convenience. DVD is more powerful in storing data than CD. Now a DVD disc called blue-ray is available in the market, and its capacity of storing data is more than that of common DVD



CD and DVD

Flash Drive & Memory Card: Computer users need to transfer data from one computer to another, and it can be easily done through networking. But, where there is no network facilities, a different kind of storage device is used. The name of the most easily portable storage device is pen drive or flash drive. Perhaps you understand that it is smaller like a pen and can be carried in pocket.



Pen drive

When it first came to the market in 2000, its data storing capacity was of 32 megabytes, but now pen drives of 32 gigabytes are available in the market, and the price is cheap too. It is more durable than CD or DVD. So its popularity is gradually increasing among the users. Nice looking

pen drives of wide variety are up for grabs.

Group Activity

Which one, according to you, is the most effective device to store data among CD drive, DVD, pen drive and memory card? Explain with reason.

Now microchip implanted cards are used to store data except pen drive or flash drive. These are called memory cards that can store a huge

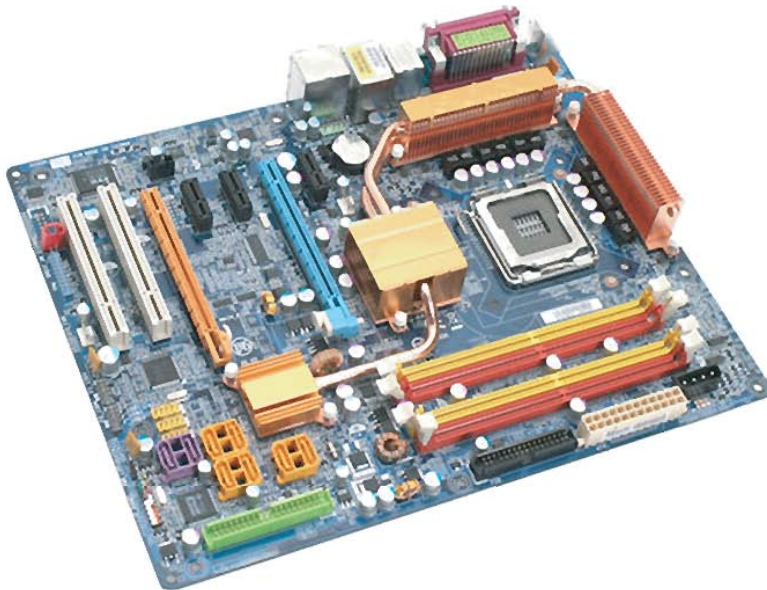
amount of information too, but they can not be directly connected. Either fixed slots or memory card readers are needed to use it. Memory cards are of

different sizes and storing capacities. Its use is noticed not only in your favourite MP3, MP4 or game player but also in digital camera, mobile phone or smart phone.

Vocabulary: Gigabyte, Terabyte, Aluminium alloy, Ceramic, Polycarbonate, Laser beam

Lesson 12 &13: Motherboard

Motherboard is a very familiar word with you. You have already got a view of motherboard. In spite of that, you should know more about motherboard. If you open any electronic board, you will see a printed circuit board which provides a way for hardware in a computer to communicate with each other. This board keeps the power supply except maintaining the interconnection between the machineries. Before the innovation of motherboard, these machineries were connected with wires.



Motherboard

The computer motherboard is also called the main board, system board, planer board and logic board. However, it may be called, it provides connection of input, memory, output or storage device to the processor. Once in the motherboard, the slots or sockets for video card, sound card, RAM etc. were visible except processor or CPU socket. Nowadays, a motherboard has all the

cards built-in except the RAM. It has reduced the production cost of computer, and as the capacity of processor is increased, it can do the works of some devices.

The most essential part of a motherboard is the chipset that coordinates the functions of other devices with the CPU. The working capacity of a motherboard depends on this chipset. Which processor is compatible with a motherboard is determined on the basis of this chipset.

A modern motherboard includes?

1. Microprocessor or CPU socket
2. RAM slot
3. Chipset
4. ROM
5. Clock generator
6. Expansion Slot
7. Power connector

Besides, a USB port, networking card and port remain built-in the motherboard.

Group Activity

Open a ruined computer to observe the mother board and show it's different parts by drawing

- At least a session should be allotted for the practical lesson.

Vocabulary: Printed circuit board, Built-in, Chipset, RAM slot, Clock generator, Expansion slot, Networking card

Lesson 14 : Processor

If you are inquired about the most important organ of the body, certainly your answer will be the head because the organs of the body work by the commands of the head. In the same way, processor is the most important component of computer, mobile phone or the other ICT devices. It is also called CPU (Central Processing Unit). Now all the high-tech devices including car, camera, mobile phone, game console, television etc. are operated by processor.

Processor is the most modern technology of today's world. It is being modernised very fast since the invention. It sounds amazing that processor itself helps to modernise processor, i.e. processor itself is modernising it everyday.

Processor is built with numerous integrated circuits (IC). These ICs are made of transistors. All these are contained in a tiny chip. Though the number of ICs is increased in a processor, the size of chip is being gradually smaller. But its working capacity is increasing. The CPU controls all the processing works in a computer. Receiving the signals of the software and processing the data accordingly is the main job of it. It means that the CPU or the processor controls the job of data exchanging through input and output devices. In a word, the processor coordinates between the computer-related devices and the signals of software, and thus executes the job. The followings are the three constituent parts of a processor:

1. Arithmetic and Logic Unit: The mathematical and logical calculations are executed in this unit;

2. Control Unit: This unit controls all the desired works, i.e. which signal comes after what is determined by the control unit;

3. Registered Memory: It's a tiny but fast temporary memory from where data is taken and instantly processed;

Bangladesh became free and was recognised as an independent country on December 16, 1971. The Intel Company invented microprocessor in the same year. It was called 4004. Ted Hoff, Stan Major, Federico Faggin of USA and Masatoshi Shima of Japan were the inventors of it. You have already known that the working capacity of the processor is being increased gradually after its invention. In 4004 microprocessor, the number of transistors was only 2300, but now in a Core-i7 processor, the number of transistors is 227,00,00,000. What will happen next?

The Computer understands and carries out the commands given in

different languages by people of different races and anthropological groups. How can this machine understand them? Perhaps you are very much curious about knowing the answer of this question. The simple answer is that the computer does not understand any language at all. It only understands its own language. It has only two numerical figures in its language, '0' and '1'. '0' means electricity from 0-2 volts, and '1' means 3-5 volts. The name of this language is machine language. Suppose that you can talk in Bengali and English language, but want to talk to a French speaking person. What will you do? You have to seek the help of an interpreter who will co-operate you to communicate with him. In the same way, we need conversion programme or software to get the processor to comprehend our language.



The machine language has fixed codes for every letter and symbol of all the languages of the world. Conversion programme changes our language to codes comprehensible to the processor. There are different types of codes. We can cite ASCII (American Standard Code for Information Interchange) for example. ASCII code is 8 bits code. According to these codes:

A=01000001

B=01000010

?= 00111111

,= 00101100

Now the most popular code is the Unicode. When you will be programmers, you will understand the machine language along with many other languages.

Group Activity

Differentiate between the language of the processor and the language of the human beings.

Vocabulary: IC, Chip, Arithmetic and Logic Unit, Control Unit, Register Memory, ASCII Code, Unicode

Lesson 15: Input and Output Device

Sound Card: The device which is very much common in today's ICT oriented machine is sound card. It works input as well as output device. It is controlled by software. Most of the

sound cards transform digital data into analogue sounds. Connecting the output audio signals to an amplifier, we can listen to the sound through either a headphone or a speaker. All the sound cards have input and output connectors. If any input is given from outside either through any microphone or



Sound Card:

through any input device, the sound card transmits it to the processor which after processing it send back to the sound card from where we can listen through the output device into headphones or speakers.

Now the motherboards of all brands have built-in sound cards. Multimedia gets its true colour through sound card. We can enjoy music, movies, and play games with sound effect for the sound card. But for professional uses, sound card is usually connected to the motherboard separately.

Multimedia may be divided into linear and non-linear categories. Linear contents do not require any navigational control for the viewers such as a cinema presentation. Non-linear requires interactivity to control progress, such as a video game or self-paced computer based training. Hypermedia is an example of non- linear content.

Multimedia presentations can be live or recorded. A recorded presentation may allow interactivity via a navigation system. A live multimedia presentation may allow interactivity via an interaction with the presenter or performer.

Graphics Card: When you use computer or mobile phone, you give commands watching the visual images or icons on the monitor. How are these images displayed on the monitor? In fact, the commands are controlled by graphic card. It is also called video card, display card or graphic adaptor.

Like sound cardss most of the graphic cards are built-in though there are slots or sockets to connect disjointed graphic cards to the motherboard. But most modem processors have video or display chip with which they can display visual images without graphic cards. All the graphic cards can display 2D (two dimensional) picturess but now the graphic cards are available that can show

3D (three dimensional) pictures. But 3D monitor is required to watch 3D pictures. We can now watch live and bright pictures. Like sound Graphics Card cardss graphic cards have input and output connectors. Besidess it has a separate port for playing games. So you can easily connect joysticks or other devices.



Graphics Card

Group Activity

What kind of output card may offer you extra facilities except sound or graphics card? Represent after discussing among yourselves.

Vocabulary: Analogue, Amplifier, Adaptor, Two dimensional, Three dimensional

Lessone 16 & 17: Input and Output Device

Monitor: Monitor is intrinsically an output device. Now we have monitors that can input as well as output device. Yes, we are talking of touch-screen monitors. Nowadays, mobile phones, tablet PC, laptop with touch-screen and common monitors are available in the market. Perhaps you have already used these devices. There is no difference between a television and a computer monitor.



CRT Monitor,



LCD Monitor



LED Monitor

Monitors are of different sizes measuring diagonally. Previously, CRT (Cathode Ray Tube) monitors were usually used, but now LCD (Liquid Crystal Display) and LED (Light-Emitting Diode) monitors are very much popular among the computer users. These are light and slim, energy saving, and attractive looking.

Printer: The output device that we need most after the monitor is the printer. We use printer to print the output after its processing into the computer. We print the images after catching on digital camera. Three types of printers are available:



a. Dot Matrix Printer: It's the printer of primary stage's invention, and it's still very popular for low printing cost, but its print quality is not very good, and slow in running;

b. Inkjet Printer: It is commonly used as cheap printer. It is mostly used in personal works. Liquid ink is required for this printer, and it gives a very good quality print. People like to use it in printing photographs. But photo printing is comparatively expensive.



Inkjet printer



Laser printer

c. Laser Printer: Perhaps you have guessed that the printer has some relevance with laser beam. The print quality of a laser printer is very high of standard, and the device is very fast in running. It's very useful both in printing texts and photographs. Once it was expensive, but now very economical.

Besides, the plotter is a kind of printing machine. It is used to print architectural design, map etc. on a paper of big in size.

Group Activity

Which printer is useful for the works of your school? Discuss in your group and represent with the right argument.

Vocabulary: Cathode Ray Tube, Liquid crystal Display, Light-Emitting Diode, Architectural Design

Lesson 18: Output Device

Speaker: You undoubtedly like listening to music. The device connected to the musical instrument is speaker. We get the output of all kinds of sounds through speaker. It's an output device which is very essential for the multimedia computer. Speaker may be either built-in, or connected from the outside. We should connect standard speaker to get clear sound output. A speaker converts the electric



Speakers

waves generated from the sound card to audible sound waves.



Headphone

Headphones: Headphones is a device with a part to cover each ear through which you can listen to sounds without other people hearing. It is also called earphones or headset. It's also an output device. It's usually used with mobile phone, CD/DVD player, MP3/MP4 player, laptop and personal computer. As its use is soundless, no one feels disturbed by it. Headphones should not be played too loud because it may impair your hearing organs.

Now, people use wireless headphones that facilitate sound to us by using Bluetooth or wi-fi technology.

Multimedia Projector: Multimedia projector is an electro-optical device. It can convert any data from the computer or any visual source to images that can be enlarged by using lens, and viewed focusing on a wall or a screen. Modern projectors can create 3D images.

Multimedia projector is mostly used in presentation. It is the modern version of slide projector and multimedia projector. It can focus any digital image enlarging on any surface, either on a wall, or on a desk. The brightness ranging 1000-4000 lumens is required for using in a big conference room though it

depends on the capacity of the projector.

The lamp of the LCD projector will be changed after using 4000 hours. Another kind of projector uses LED technology that can render service for 20,000 hours though its price is comparatively high. Capturing the images from computer or any other sources as television, CD/DVD players, it transmits to the LCD. Then the image is focused on a flat surface through a lens. As LCD/LED projectors are small in size, it is portable, and does not need any big furniture for projection set-up. Now, pocket projector is available, and it facilitates the use from computer, tablet PC or mobile phone.



Multimedia projector

Group Activity

Make a list of the input and output devices in the light of your experience except the functions of the devices discussed here, and represent thereafter.

Vocabulary: Sound wave, Bluetooth, Wi-fi, Lumens, LCD, LED

Sample Questions:

1. You want to make a digital copy of a photograph. Which device of the computer will you use?
 - a. Plotter
 - b. Keyboard
 - c. Printer
 - d. scanner
2. Processor is called the head of a computer because?
 - i. it is connected to the motherboard;
 - ii. it gives commands to the computer;
 - iii. it processes the data;

Which one of the following is correct?

- a. i
 - b. ii
 - c. iii
 - d. i, ii & iii
3. Which device will you use to save a photograph taken on your digital camera?
 - a. ROM
 - b. RAM
 - c. Processor
 - d. Hard disc
4. Which device is used to watch images and to talk together?
 - a. Mobile phone & Webcam
 - b. Webcam & Microphone
 - c. Computer & Microphone
 - d. Computer & Webcam

Read the chapter below, and answer the question nos. 4&5:

Kona, the eldest granddaughter of Mr. Matin, is watching the cricket match between Bangladesh and South Africa. Noticing her to watch cricket match, Mr. Matin asked her, 'Have you taken satellite connection to your laptop?' Kona recorded the match.

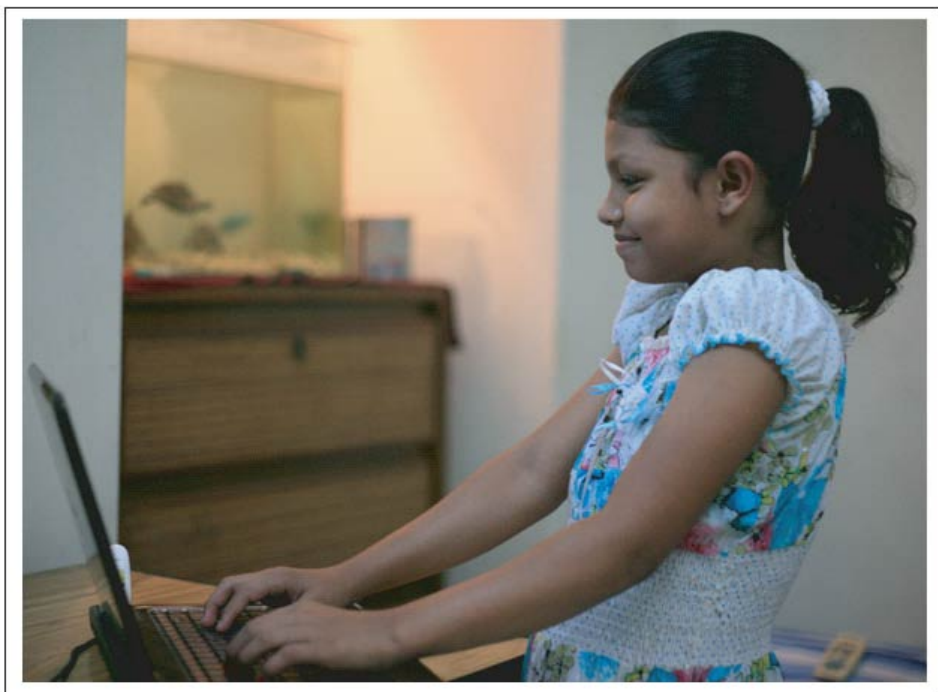
5. Kona can watch the match by ?
 - i. using the Internet.
 - ii. connecting TV card to laptop.
 - iii. connecting television-laptop.

Which one is correct?

- a. i & ii
 - b. i & iii
 - c. ii & iii
 - d. i, ii & iii
6. What's the convenient device to record the match?
 - a. Hard disc drive
 - b. Pen drive
 - c. CD
 - d. DVD
7. Explain with reason why you picked the answer from the options given to the question number 6.

Third Chapter

Safe and Ethical Use



After completing this chapter, you will be able to :

1. explain the detrimental effects of the excessive use of Information and Communication Technology;
2. describe its impacts on society;
3. explain the rules and regulations of ICT;
4. explain the necessity of safe and ethical use;
5. draw cartoons about the consequence of excessive use.

Lesson 19: Sensible Use

If you are asked to cut down a branch of a tree with a tiny stick, you will hardly manage to peel off the bark trying throughout the whole day. But, if you are given a sharp chopper, you will cut the branch down with a few strokes. If you use the tiny stick carelessly, you may just be pricked once or twice, but if you use the chopper absent-mindedly, you may receive serious wounds, and bleed.

The cutting power of a sharp chopper is more than that of a tiny stick, and the careful use of it can successfully get the big job done, but an accident may happen if you abstractedly use it. It is also true to your life and true to the use of Information Technology as well. Perhaps, you can guess that a high risk of danger is involved in its wrong application.



Use Internet in front of everybody

So we will learn operation of the computer, the Internet and the Information Technology, and use it carefully so that we may not fall in danger. The use of the Internet gets priority to the most of the users. Almost all the computers of the world are connected to the Internet,



You should not give your name, address, picture or password to any unacquainted person

and when someone uses the Internet in his PC, the whole world seems to be appearing at his room. In this world, there are many beautiful sites where you like to travel in, but there are also some dangerous places where you should keep yourselves aloof from. It equally happens in using the Internet. There are many beautiful and educative websites where you may easily visit, but there are some filthy websites you should never visit.

When you communicate with others by using the Internet, you may come across people you are not acquainted with. What if it is revealed later that the man you trusted surfed the Internet with an ill intention? What if you gave him your name, address, phone number and photograph, and he used it for a bad purpose? What will you do then?

The first instruction to be followed by you in using the Internet is that you must not give your name, address and password to anybody.

Communication with unknown people through the Internet sometimes may be risky. As no one is noticing, you may be unrestrained in exchanging views that may cross the limit of modesty. Why should you tolerate obscenity and filthy things if you are not familiar with your personal life?



Be friendly While using internet

Age is regarded as an important factor for every conduct and practice of life. Perhaps, you have noticed that you like the books written for the grown up children like you. Books written for adult people may not suit your taste. Even, you may be shocked by the subject matter of the book. The same thing may happen in the cyber world. You may be shocked if anything unsuitable for your age comes across you. A feeling of disdain may grow in you.

Those who use the Internet in the computer must follow the three instructions given below:

1. You must not use the Internet secretly. Work sitting in a position from where everyone can watch the monitor;
2. Never give any unfamiliar person your name, address and photographs;
3. Use the Internet cheerfully. Never harm anybody. Though you stay out of sight, never cross your limit through unrestrained, filthy, or appalling behaviour;

Group Activity

1. Make a list of the technologies should be used carefully except the computer and the Internet.
2. Make a beautiful poster writing the three instructions of the use of the Internet.

Lesson 20-22: Obsession

In 2009, two people were arrested in China. They were husband and wife. They were arrested because they sold their children. In three different times, they sold their three children for \$9000. Perhaps, those who read newspapers daily might have noticed that a helpless mother of our country had also sold her kid for some money as she had not the financial solvency to bring it up. When we read news like this, we feel sad, and hope that one day, our country will be a prosperous one where no mother will have to sell her kids.

But, the Chinese couple did not sell their children for insolvency. They sold them to pay for online game. Both of them developed an obsession with playing an online computer game called MMO (Massively Multiplayer Online-game), and the obsession was so acute that they sold their children to pay for it.

It was a very unusual incident. When it was focused in the media, the whole world was perplexed. Panic gripped the people as they realised that computer game might develop a serious obsession and snatch away our sense of proportion. We should remember that being fond of anything is a very usual instinct of human beings, and life becomes beautiful as we adore beauty. But obsession is completely a different thing, a negative aspect of nature. When something becomes an obsession with someone, reason does not work for him. Drug is the most significant example. When someone gets addicted to drug, he fails to come out of its dreadful infatuation. He destroys himself and makes the family life hell. Similarly, the obsession with computer games may be same as drug addiction. Those who are playing computer games now and will play in future should remember one thing that you will just enjoy the game, not be obsessed with it.

How will you understand whether you have developed an obsession with



The news of selling children by a Chinese couple in the media

anything or not? It's not very hard to find out. When you will notice someone crossing the limit on any work, it can be identified as an addiction. In our country, different satellite channels broadcast cartoons on television throughout 24 hours. The kids enjoy these animated films, and as soon as it is over, they concentrate on their other essential works. But if it happens that they all the time watch cartoons, and other family



Kids may easily be obsessed with cartoons

members can not watch anything, it is evident that they are going to develop an obsession with animation. Some parents do not have any clear idea about the danger ahead of their kids. So they always allow their kids to watch cartoons on television to keep them silent. Thus they develop an obsession with cartoons, and it hinders the mental as well as the intellectual growth of the kids.

The children can not only be obsessed with cartoons or computer games, but also be addicted to a particular type of food. Some days ago, it is known through the newspaper that a woman of Britain can eat nothing except pizza. She has been eating this item of fast food since the last 31 years at breakfast, lunch and dinner. It's an addiction too.

So, you will be very careful about not being addicted to anything. If you are obsessed with anything, it is difficult to get rid of it.

Group Activity

Compose a drama regarding the detrimental effect of obsession with the computer games, and perform on the stage.

Once the word 'addiction' was used to describe the habit of gambling and abusing drugs. Perhaps you will be surprised at hearing that the excessive use of computer is regarded as an addiction. Even those who keep themselves busy most of the time with browsing the web are suffering from a kind of disorder. A new jargon, IAD (Internet Addiction Disorder) is coined for these addicts.

Today, most of the people use the computer. So they should clearly

understand the difference between the essential use and addiction. When someone spends maximum time on the computer, it is obvious that he is going to develop an obsession that harms his study. It will equally harm his health if his addiction increases and if he does not take rest or sleep in time. As people bear a good notion of the computer, they do not clearly understand their children getting addicted to it. Going beyond the limit of anything is bad, and it is true for the users of computers too.

What are the harmful effects of the obsession with the computer use? Some damages are very evident. The growing up children need physical exercise and outdoor games, but if they remain busy with the computer inclining their heads, then it hinders their physical growth. An obsessed user of the computer can not think beyond this machine. He not only spends time but also compels his parents to spend money behind it.



We will use the computer. not be used it.

Once, if addicted, it is hard to get rid of it. So it is better not to develop any addiction. Children of your age should know that the computer is a very effective device, and you must use it in needs, not develop any obsession.

If anybody gets addicted to it, we should help him to shake his addiction off and show him the ways how he can get merriment from outer world, especially from games. Time should be fixed for him how long he will use the computer. It should not be more than 1 hour, and he will be given the condition that he may get the chance of using it if he completes the other essential works including study. He should remember that the computer is a nice device, and we will use it, not be used by it.

Now a new kind of obsession about Information technology has come into being. It is called social communication network such as facebook, twitter, linked-in, sumaji etc. Crores of people of the world use facebook. At present, a large number of people of Bangladesh use facebook and the number is gradually increasing.

Group Activity

Write a story about a computer addicted boy/girl how he/she spends his/her time.

We guess its importance as thousands of people use these social communication networks that are unparalleled for communicating a bit of information to a huge number of people. The autocrats rule many countries in the world on the pretext of not practising basic democracy by the political parties, but movements can be launched by organising people through the social networks. You will be surprised at hearing that these social networks played a very vital role to oust the despots from the power of some countries. When we want to send messages to a huge number of people, we can instantly send it through networks.

People continue communicating with others through the social networks that are very popular among the younger generation as they can accept information technology very easily. Although there is an age limit to join the networks, but the adolescents join by giving fake information about them, and there is no easy way to stop them. You may argue that as it has so many positive sides, what if the adolescents join it? We do not prevent you from reading newspapers or watching television, why do not we allow you to join the networks?

Certainly, there are some valid grounds for that. People who are involved in this social communication networks can not watch them physically. We fail to guess anything about the people you are communicating through social networks. It's usual that a adolescent will spend his time with the friends same to his age, but if they develop friendship with adults, that may not be good for them.

Even the adults are obsessed with social networks, and it becomes a problem for them as well. They can spend hours exchanging views with familiar, little familiar or even unfamiliar people by using the network which has made the

whole process very convenient. In offices and workplaces, it has been made strictly prohibited as the officials neglect their responsibilities being busy with unnecessary communications. But prevention may not be a good solution. If they apply their rationality and use it sensibly, it will not be an obsession for them, and that is the best possible solution desired ever.



There is a gulf of difference between a real friend and a social network friend.

People may be unsocial even after being connected to social networks. Those who are related to each other through the social networks address themselves as friends, and consider exchanging views friendship. If anybody regards the friendship of Information technology as real and become complacent about it, you will definitely be deprived of many significant things of life.

Group Activity

Being divided into two groups, one in favour of and another against joining the social networks of the students of your class, arrange a healthy debate.

Vocabulary: MMO, Obsession, IAD (Internet Addiction Disorder), Autocrat/Despot, facebook, twitter, linked-in, Sumaji

Lesson 23: Copyright

The concept of Copyright and Merit Ownership: Human beings need two kinds of property to live on. We can easily recognise the property that includes money, living house, transport, food and other material things. But people can not be satisfied only with these material belongings. They should foster their human faculties. They listen to music, recite poetry, watch movies or dramas, sketch or paint, work on the computer or play games and keep them involved in creativity. We can make asset through these creative activities that we call intellectual assets. We can protect and save all the assets we have. No one can take away our material assets easily as our right is protected by the law. But you can compose a song that can be sung by many singers. Even someone can deceive people introducing him as the composer of the song. Similar thing may happen in the case of a writer. You may write something, but some one may publish it somewhere without your consent. If it happens, it's not good from either social or ethical point of view. The composer or the writer may not get the recognition, and they lose financially too. A writer spends his time, thought and intelligence in writing a book. The publisher invests capital to publish it, and fixes a price keeping a profit margin. The writer gets a percentage of it which is called royalty. If any body pirates the book and sells it, the writer is deprived of his right. In different countries of the world, laws were enacted to prevent the illegal reproduction, copying and use of creative things. As this law protects the right of the writer, it is called copyright law, in brief copyright.

Reproduction or copying books has been easier after the invention of printing machine. In 1662, the Licensing of the Press Act was passed in the parliament of the United Kingdom. Those who wanted to stop piracy of their book took a license after the registration under the Act. The procedure was started with the books, but later included all the creative things such as scientific inventions, business labels, merit ownership etc. After the invention of computer, reproduction of books, photographs, labels etc. have become easier, and now the Internet can spread it throughout the world. So the reproduction through the computer has come under the purview of this law, and as the computer programming is a creative work, the programmer can also protect his right too. Now the copyright continues after the death of the owner. In some countries, it remains in effect until 100 years, but usually until

50-70 years after the death of the writer, artist or playwright. In Bangladesh, under the clauses of the copyright Act of 2000, its duration is 60 years. When a creative work is reproduced breaking the copyright act, it is called piracy. As the computer software and programmes can be copied easily, the rules are frequently broken. We should be careful while using the computer. When we will give anything from our computer to anybody, we should not break the copyright act. We preserve many literary pieces of works along with the computer games and programmes. We should keep in mind that we do not have the right to transfer the copies of those pieces to anywhere, but there are some liberties in using the creative works. The academic or study materials are almost free, and copying of any such materials does not violate the act. It is called 'fair use'.

A different stream of thought is also active against this conservative outlook. They think that the writers, artists, programmers can free their creative pieces on some terms and conditions. It is called 'Open Philosophy' or 'Open Source Philosophy'. Those who are the followers of this philosophy allow people to use their creative products under some licensing regulations. The opposite of copyright is 'copyleft'. It means that the producers allow everyone to copy and use their products, and those who are 'creative commons' stay in between the copyright and copyleft. Some rights of the job-creators are protected in some categories of the creative commons licensing act which permits anyone to publish or copy any writing or any creation without the permission of the writers or the creators. But that must be published in the writers' names, and he will not make any profit by it. The computer software being operated under the regulations of open source philosophy are called 'Open source software'. Anyone can copy and give the software to anybody. As the software are permitted to be copied and modified, those become gradually upgraded. A remarkable contribution of this philosophy is wikipedia, an open storehouse of knowledge (www.wikipedia.org). People of the farthest corners of the world contribute together to enrich this website of knowledge under free licensing act.

Group Activity

Arrange a debate making two groups, one in favour of and another against the open source philosophy.

Vocabulary: Copyright, Copyleft, Creative Commons, Open Source Software, Piracy, Fair use, Open Philosophy

Lesson 24-26: Ethics and Plagiarism

When we walk along the street, we watch the shops on the either side of the road, but do not push the door to see whether it is open or closed. If it remains open, an unknown person does not enter the shop or ransack the goods. Rather we call the shopkeeper to shut the door if he leaves the shop keeping the door open. It is our responsibility as civil citizen.

A similar situation happens after the invention of the information technology. When we visit various websites, we just see what the persons or organisations behind the constructions want to show us. We can not enter the private parts of the websites, and we do not have any need either. Only the selected persons have the access for knowing the password. But those who do not have the access of entry, may desperately try to enter the sites either bypassing password or breaking the security code. Entering there, they may come back just navigating the site, or damage a lot by changing the configurations. One can easily do it by using his personal computer sitting in his own room as the location is faraway, an invisible cyber world which is out of the peoples' sight. So it can not be traced. This process is called 'hacking', and nowadays, the computer websites are frequently being hacked. Those who hack into a website but do not damage it are called 'white hat hackers', but those who damage it are called 'black hat hackers'. Numerous hackers are active in the cyber world, but security measures are gradually being tightened. In 1983, a boy of 19 years of age hacked the website of the USA defense force.

So you have understood that hacking is an unethical work. A try out for intelligence or facing challenge might be a passion, but hacking into website is not a challenge at all. There is no honour in taking any unethical challenge. Hundreds of challenging fields are waiting for you, and you can try with any of them to measure your intelligence.

When the results of PEC, JSC, SSC or HSC are published in the website, all try to view the pages at a time, and then the website disappears from the net. It's not very unusual as every site has a containing capacity. The website goes beyond control when overloaded. Besides, somebody can intentionally create a situation so that a programme can artificially hit a website hundreds of times per second. This constant hits make the website malfunctioning. It's an unethical practice. No one deserves honour by stopping a website.

Nowadays, many newspapers are thrown into the websites, and the readers can write comments on a bit of news. They can easily write thought provoking and positive comments, but it is frequently seen that some readers write meaningless and obscene comments. It is unjustified from the ethical point of view.

As there is the freedom of speech in the Internet, visitors of websites can express their opinions as they like. Sometimes, they abuse this freedom either by threatening people or posting superimposed pictures or sending disgraceful information through email to humiliate someone. Communicating millions of people at a time was previously a tough job, but now it has been made easy. If anybody abuses the advantage provided by this technology, it is evident that his use was unethical.



All the important newspapers of the world are found in the Internet, and the writers can write comment on any news.

Group Activity

Estimate the damages of the websites done by hacking. Give an example to justify your statement.

In the Internet, unethical as well as unlawful works are done crossing the limit. There are people who do illegal and heinous crimes in the Internet. We should know how the crafty men deceive innocent people. As the whole procedure is done behind the back, in the cyber world, the most frequent is cheating. Suppose, someone may contact you and say that you have won a lottery, and ask you to meet somewhere to receive the money. When you meet them, they say that you have to spend some money to receive the prize of the lottery. After realising their demand, you saw that the lottery-story was a total fabrication, and you had been deceived by them. Again, an unfamiliar person may inform you that he has unexpectedly got a huge amount of money, and he wants to deposit a big sum in your account for security. Thus you may be entrapped. So an offer from any unknown person to your email box is nothing but an attempt to deceive you.

Credit card fraud is very massive and frequent in the Internet. Perhaps you know that exchanging of notes has been thinned, and the use of credit cards is rapidly increasing. Even the card is not essential to transfer money through the Internet. You should only know the number. So the criminals often commit cyber crimes to know the numbers of credit card holders. The question of security is the top priority while using the credit cards, and it is very tough to know the numbers, but the cyber criminals succeed to know the numbers by deceiving people, and draw a big amount from their accounts without their knowledge.

Nowadays the notorious criminals use the Internet to despatch their information through the Internet. So laws have been enacted globally to prevent this crimes. Those who can not be tried by the existing laws, will be tried by the new laws.

There are many confused people living with wrong ideologies. They are communal and fanatics. They propagate their beliefs through the Internet, and



Sending emails by using the names of renowned companies, the cyber criminals deceive people

try to spread violence. It is also recorded that they intensify the frustration of the hopeless people, and provoked them to commit suicide. But you should not be worried of the situation. You should know that the information technology, or the Internet, or the Cyber world is a very powerful medium of communication. Some

people can commit cyber crimes by abusing the technology, but they are small in number. If we are careful, we will not be deceived by them. We will use the positive sides of it.

You are very much familiar with the computer virus. Someone may create computer virus to make fun or to commit crimes. They throw the virus in the Internet, and it entering our PC causes small trouble to massive problem like erasing data from the hard disc. A computer virus called 'Mydoom Worm' attacked 2,50,000 computers in a day in 2004. In 1999, a virus named 'Melissa' attacked the cyber world so strongly that Microsoft, the biggest computer



David Smith was sentenced to 10 years' imprisonment for spreading Melissa virus in the Internet.

Group Activity

Draw a cartoon of a man who has fallen into a danger after committing the cyber crime.

Plagiarism: Use of references to any writing must be with due recognition.

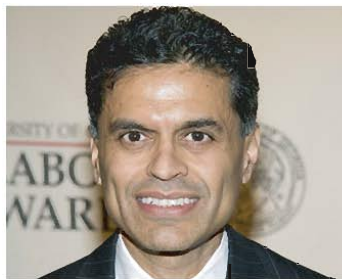
1. The gist of it is authenticated on a specific aesthetic ideal and aesthetic perspective. We notice since the beginning to the end a mature expedition of aesthetic sense and a thought of his native country in his gradual practice of drama and dramatic theory.
2. Dr. Ahmed Aminul Islam, Swadesh o Shilpototter potobhumikay Nattokar Selim Al din (Selim Al Din on the Perspective of Native Country and Aesthetic Theory), Theatre Studies, Selim Al Din edition, June 2008, Volume-15, Department of Drama and Dramatics, University of Jahangir Nagar, Savar, Dhaka, page-61
3. Syed Shamsul Haque, Preface to Chaka by Selim Al Din
4. Dr. Afsar Ahmed, Selim Al Diner Shilpototto o Bisvabiksha (The Aesthetics and the Worldview of Selim Al Din), Theatre Studies, ibid, page-26
5. We feel interest about the fables, fairy tales, religion and culture of the small anthropological groups of Bangladesh... In 1986, we express our firm determination to strengthen communication with the multilingual anthropological groups in The National Drama Fair arranged by Dhaka Theatre.

When we study, we learn many new things that were unknown to us, and along with this, we learn to be enlightened and perfect. A perfect human being neither commits nor tolerates any crime. As they do not commit wrong, they prevent others from doing it. We expect our children to be perfect human beings when they will learn many things through study.

In spite of that, we notice students adopting unfair means in the examination, and being expelled from the examination hall. Thus they ruin their future.

The similar things happen in almost all the parts of the world, and in the age of the Information and Communication Technology, it has got a different

complexion. Homework is must in academic study, and the learner himself should do it. If anybody does it for him, he may get good credit, but definitely, he will not learn anything. In the higher classes, they have to write monograph or class project. The brilliant students undergo toil to prepare the papers, but some idle students do not work hard. They copy the subjects thoroughly from the webpage and submit in their names. It's called Plagiarism which is a very unethical job.



Farid Zakaria, the internationally famous journalist was sacked from his job for the complain of plagiarism

Perhaps the word is not familiar with you. Your superiors did not hear it either. But in the age of information technology, you must be acquainted with the terminology. It has become a real problem right now. People either knowingly or unknowingly plagiarise from others' writings. Some were strictly penalised.

We will learn from others' writings, and taking help from their writings is not a crime, but they should be given the due recognitions. There is nothing illegal if you correctly refer to the portion used in your writing.

Though plagiarism is increased, the ways of detecting it are increased too. Do you know if anybody plagiarise anything from anywhere that can easily be detected by using computer software?

If you commit any wrong, it may bring about a danger for you, but you will not evade doing crimes considering it dangerous for you. As you will be the perfect citizen of the country, you will be committed not to commit any wrong. You should remember that one day you would shoulder the responsibilities of the country.

Group Activity

Arrange a debate on the difference between plagiarising and memorising.

Vocabulary: Hacking, Black hat hacker, White hat hacker, Credit card, Mydoom worm, Melissa, Plagiarism

Sample Questions:

1. Which place at home is the most convenient to set a computer?

- a. Drawing room b. Bedroom
- c. Dining room d. Reading room

2. In the field of social network, ?

- i. you may not directly communicate the individuals;
- ii. people lack sincerity;
- iii. there is every possibility of being deceived;

Which one of the following is correct?

- a. i & ii b. i & iii
- c. ii & iii d. i, ii & iii

3. A man obsessed with the computer may be ?

- a. unsocial. b. skilled in computer
- c. good at study d. advanced in science and technology

Read the chapter below, and answer the question nos. 4 & 5:

Rimu is 5 years old. Recently waking up in the morning, she starts watching cartoons on television. As she does not bother her parents, they are also pleased.

4. Her watching cartoons can be termed as ?

- a. spending time. b. serving purpose
- c. an obsession with cartoons d. enjoyment

5. Rimu, for the attitude of her parents to her, may be ?

- i. unsocial to the utmost.
- ii. physically weak.
- iii. a creative being.

Which one is correct?

- a. i & ii b. i & iii
- c. ii & iii d. i, ii & iii

Chapter Four

Word Processing



After completing this chapter, you will be able to :

1. **explain the technique of applying word processor by using right terminology;**
2. **explain the technique of using Bengali keyboard;**
3. **explain document management;**
4. **create Bangla documents in words;**
5. **arrange the documents in a right way.**

Lesson 27-54: Word Processing and the Use of Bengali Keyboard

You have already known that we can do many works including word processing and drawing images in the computer. You have learnt how to type documents in English. Now we will learn to create Bengali document by using word processor.



Layout of Munir Unicode keyboard

Bengali keyboard: We need a keyboard to write something with word processor. Keyboard is the main input device of word processor. We should have an idea of Bengali keyboard to write in Bengali in word processing. Martyr intellectual Professor Munir Chowdhury of the University of Dhaka at first invented a layout of a scientific keyboard for Bengali typewriter in 1965. In 1971, 'Al Badar', an anti-liberation force brutally killed him.

Later, this keyboard layout was developed for the computer, and it required a software which would help to write in Bengali in the computer. The 'Shaheed Lipi' software with some fonts were introduced in 1985, but it could not acclaim popularity. More software such as Bijoy, Proshika Shobdo, Probortana, Lekhoni came to the market since the mid-eighties to the late nineties. The Bijoy software became popular for being rightly upgraded and compatible with other software, and this time the Bijoy keyboard layout was ahead of all the layouts being used by the computer users.

বিজয় কী-বোর্ড লে-আউট													
~ +	! 1 ~	@ 2 @	# 3 #	\$ 4 \$	% 5 %	& 6 &	^ 7 ^	* 8 *	(9 () 0)	- [-	=] =	Back space ←
Tab	Q উ	W য	E ড	R প	T ট	Y চ	U জ	I ই	O গ	P ড়	[[]]	~ ! %
Caps Lock	A ক	S স	D দ	F ফ	G গ	H হ	J জ	K ক	L ল	; ;	' '	Return ↵	
Shift	Z জ	X খ	C চ	V ব	B ব	N ন	M ম	< .	> .	? /	Shift		
Ctrl	Alt		Space Bar				Alt		Ctrl				

The Bijoy Keyboard Layout

Press Alt Ctrl B together to activate the Bijoy keyboard in word processor on your computer. Press g after the first letter to write conjunct-letter in the Bijoy keyboard and then press the second letter.

Some conjunct-letters:

letter	key	letter	key	letter	key	letter	key
ঞ	lgN	ফ	NgB	ঝ	lgy	জ	ugl
গ	lgu	ঙ	lgY	দ	qgo		

Though Bangladesh Computer Council has approved a keyboard layout called 'National Keyboard', it is yet to be introduced on the computer. Like other languages of the world, Bengali can be written by using Unicode.

ক k	ট T	প p	স s	অ o	ও ৌ OU	০ 0
খ kh	ঠ Th	ফ ph,f	হ h	আ a	ব (ফলা) w	১ 1
গ g	ড D	ব b	ড় R	ই i	ঈ - য ফলা (e) y, Z	২ 2
ঘ gh	ঢ Dh	ভ bh,v	ঢ় Rh	ঊ u	ঋ - র ফলা (e) r	৩ 3
ঙ Ng	ণ N	য m	য় y,Y	উ u	ঋ - রেফ (v) rr(c)	৪ 4
চ c	ত t	য z	ৎ t'	উ u	ঋ - হসন্ত ,,	৫ 5
ছ ch	থ th	র r	ং ng	য < rri	ঈ - দাড়ি .	৬ 6
জ j	দ d	ল l	ঃ :	এ e	চ - টাকা S	৭ 7
ঝ jh	ধ dh	শ sh,S	ঃ ^	ঐ OI	ঋ - ডট . (NumPad)	৮ 8
ঞ NG	ন n	ষ Sh	জ J	ও ৌ O	ঃ (কোলন) :	৯ 9

নির্দেশনা:

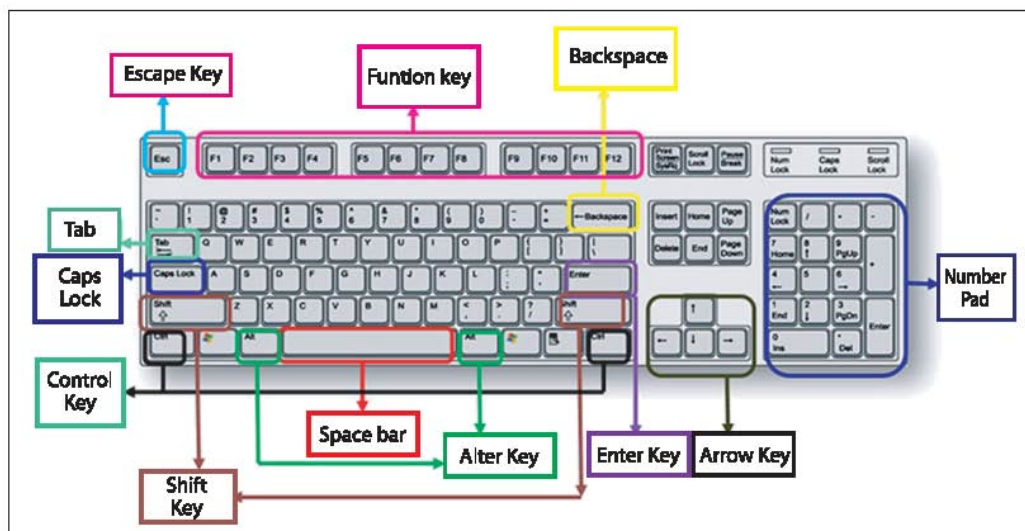
- কেন্দ্র পেনসিলিড
- কেন্দ্র পেনসিলিড নয়

(v) -

(e) -

Accent Key

Phonetic Keys



The Special Keys of the Keyboard

It does not matter which keyboard we use to write Bengali, it will be preserved in the international system. So the importance of a selected keyboard is gradually lessening. The users of the Internet have been increasing since 2000. So an urgent need of designing Bengali webpage was felt. A Bengali software which would provide the facilities of writing Bengali in the different medium of the Internet was needed for its immense popularity. The Unicode software 'Auvro' was introduced in 2007. Its Phonetic Bengali Typing System makes it popular among the young generation.

If 'ami banglay gaan gai' is typed in Phonetic Bengali Typing System, it will be typed 'আমি বাংলায় গান গাই'. Bengali writing facility is added with connecting a mouse. So those who were afraid of using Bengali fonts on the computer feel comfort and started typing Bengali with ease. It is noteworthy that the keyboard layout of Munir Optima invented by Martyr intellectual Professor Munir Chowdhury has been programmed on almost all the software.

Can you remember how to start a word processing programme?

After opening a word processing programme, you have to press Alt Ctrl B together for the Bijoy software and F12 for Auvro software to write in Bengali. The next step is selecting font. You have to select SutonnyMJ for the Bijoy and NikoshBan for the Auvro. After making all these commands, prepare the word processor for writing in Bengali. Press the keys to locate the letters. You can take the help of the picture of keyboard layout to know the locations of the

letters. Now start writing, and you will gradually be familiar with the keys. After finishing a document, you will save it by giving it a name.

Group Activity

After having some idea of the keys, let us type the first line of the National Anthem.

আমার সোনার বাংলা, আমি তোমায় ভালবাসি

Editing Documents:

I think all of you are writing in Bengali. Making mistakes? It's not very unusual. How can you make the writings error free?

The process that is followed to make a document error free is called 'editing'. It is described in brief below:

Select: While editing a document, you need to select a letter, or a word, or a sentence, or a part. To select something, you have to take the cursor just before it and at first press the shift key, then the right arrow (Shift ®).

Cut: Sometimes you need to move words or pictures from one place to another in a computer document. To perform the action, at first select the words or the picture, then press Ctrl and x keys together.



Copy: If you want to copy something on a computer screen, you have to move it from one area to another. Press Ctrl and c together after selecting what you want to move.



Paste: After copy or cut function, the next step is paste. To move a piece of text to a particular place in a computer document, take the cursor to that place and press Ctrl and v together.

Delete: To erase a piece of text, press del or backspace key after selecting it.

You should follow the commands given below to move the cursor to a particular place in a document by using the keyboard:

Functions	Command keys
Taking the cursor before a line	HOME
Taking the cursor after a line	END
At the starting point of a document	CTRL HOME
At the end of a document	CTRL END

Formatting a Document:

After creating and editing a document, you need to arrange it in such a way that it will look good. It's called formatting. We can arrange it in a different way, but we will keep our discussion limited on some elementary items. You will know more while working.

Increasing or reducing the font size: To increase or reduce the font size either of the partial or of the whole document, select it and then change the numerical figure by the side of font name on the toolbar or ribbon. Select the figure on the basis of what you want to make it, bigger or smaller in size. You can do it by giving commands through keyboard.

Functions	Commanding keys
To make font size 1 point bigger	CTRL]
To make font size 1 point smaller	CTRL [

Making writing bold, italic and underlining: At first select which part you want to change, then taking the pointer on B I U on the toolbar, and clicking the right button of the mouse get the desired effect. You can do it by commanding through keyboard:

Functions	Commanding keys
Bold	CTRL b
Italic	CTRL i
Underline	CTRL u

Alignment of a document: The margin alignment of the paragraphs of a document is determined by this command. Usually the paragraph is aligned with left, but the alignments are of four kinds, left, right, centre and justified alignment. To change the alignment of a document, at first select it, then clicking the icons get the desired alignment.



Keyboard Shortcut:


Functions	Commanding keys
Left Alignment	CTRL L
Right Alignment	CTRL R
Centre Alignment	CTRL E
Justified Alignment	CTRL J

Besides, formatting has so many works such as determining line space, making table, bullet symbols and numbers, and changing colour of fonts etc. You will master all the techniques by working in word processing software.

Printing: Now we can write document in Bengali by using Bengali word processor. Let's learn how to print the document.

To print a document, we need ?

- a printer connected rightly to the computer;
- software to install the printer;
- papers of perfect size;

After making everything ready and taking the permission of your teacher click the button of the mouse on the icon  of the printer. You can get the job done by pressing CTRL p together. Then press enter key, and the printing work will be started instantly.

Document Management: It's very easy to make a Bengali document in word processor. What is next? The next step is to save the document so that you can find it easily again when necessary. It is called document management.

Usually every document is saved in My Document folder, but your document will stay with a lot of documents. So you should follow the steps given below to find out the document easily:

- a. Open another folder in My Document folder;
- b. Initially the name of the folder will be New Folder. You may give it a new name as per your choice (after your name or according to dates);
- c. To save your document, press CTRL and s together, or click the left button of the mouse on the 'save' icon on the toolbar. A dialogue box will come, write the name in the file name box and save it;
- d. Name the file according to the nature of the document so that you can find it quickly when required;

Group Activity

Make a statement about the necessity of the document management and represent in the classroom.

Vocabulary: Keyboard layout, Document formatting, Cut, Copy, Paste, Keyboard shortcut, Printing

Sample Questions:

- Which one is the writing software in the computer?
a. Graphics Software b. System Software
c. Word processing Software d. Spreadsheet Software
- Which one is Bengali Phonetic Software?
a. Science b. Probortan
c. Lekhoni d. Auvro
- Why is 'Enter' key used?
a. to delete a selected part b. to move the cursor down a line
c. to delete the letter before the cursor d. to cancel menu or dialogue box
- Where of the following should be clicked to copy something?

a.



b.



c.



d.



Read the chapter below, and answer the question nos. 5 & 6:

Ranu was born in America. She can talk, but not write anything in Bengali. She has decided to design an Eld greeting card, and sent it to her grandpa wishing in Bengali.

- Which software will Ranu use to design the card?
a. Bijoy b. Lekhoni c. Proshika d. Auvro
- To design the card, Ranu beautifully and easily can—
i. copy some words.
ii. insert picture.
iii. correct the spelling through editing.

Which one is correct?

- I & II
- I & III
- II & III
- i, ii & iii

Fifth Chapter

The Use of the Internet in Education



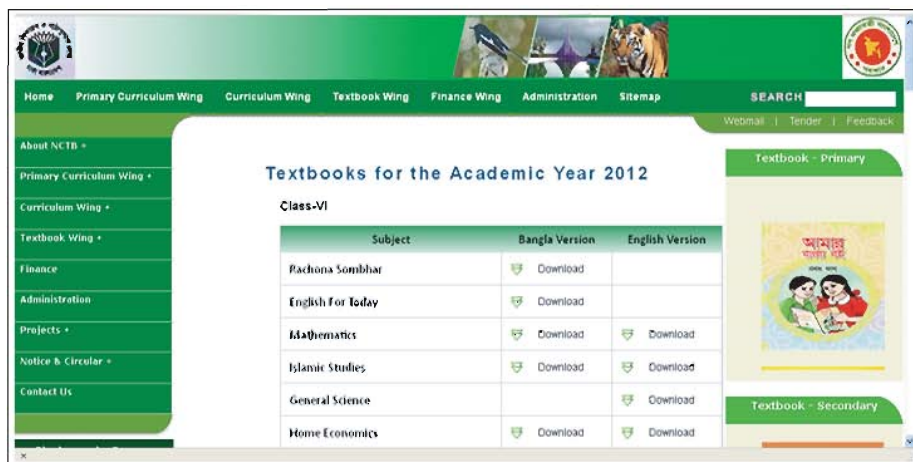
After completing this chapter, you will be able to :

1. analyse the importance of the Internet in education;
2. use the internet in education;
3. search education related information by using the web-browser.

Lesson 55: The Internet in Education

Story no. 1: Mitul lost his Bengali book. He never thought of losing it, but the reality was that he lost it. When he was carrying his favourite books of stories from the school library, perhaps then, it fell down from his loose grip, and he could not notice it. He became deeply depressed since the examination was not far away. How could he take the preparation for the examination without the textbook?

His elder brother solved his problem. He knew that all the textbooks were kept in the website of the NCTB. Anybody can download it from there. After taking the printout and binding it up, he can get a book almost like the original one. In this way, Mitul got his favorite Bengali book by a few hours.



Any textbook can be downloaded from the website of the NCTB

Story no.2: Akash has learnt from his science textbook that Pluto is no longer a planet. He was very surprised at hearing it. He has been knowing since his boyhood that Pluto is a planet in the solar system. How is it excluded from the list of planets? He asked his parents and his elder brothers about the reason, but no one could give him a convincing answer. His class teacher could not give him the right answer either. Then he abruptly remembered of the Internet, and just searching a little got the answer he was looking for. Luckily, the thought of the Internet came to his mind.

Story no. 3: Priyanka was busy with a computer programming, but she was stuck to a place, and could not proceed further. She could not use a particular function though tried hard. But she had to finish a big homework, and without

knowing the function, it was impossible for him to complete the job. He searched a lot in the Internet for the solution, but her effort ended in vain. In spite of that, she did not give up. She put the question in the language forum. Five persons replied to her by an hour, and one of the answers was what she really required. Priyanka was very delighted, and she started working with fresh enthusiasm.

Story no.4: Ratan will sit for examination on English paper. He has been reading this subject for a long time, but can not understand whether his preparation was enough or not. He sought advice from a friend who told him, 'You'd better sit for an online test to assess how you have learnt.' 'Is there any system of online test?' Ratan asked in surprise. 'Of course, there is,' his friend replied.

Ratan visited a website in the Internet and saw in great surprise that there was a system of sitting for test. He appeared at a test very enthusiastically, and discovered that his preparation was good enough. Online test has an additional advantage that the right answers of the questions answered wrong will be shown on the screen.

Story no. 5: Shukla teaches Fibre optics in a university. As she is younger, she lacks wide experience. She always thinks if she had acquaintance with an experienced teacher, she would have learnt how to teach the course more effectively by sharing knowledge with him.

One day while searching the websites, she luckily got the lecture notes of the full course that she teaches. An efficient professor of a renowned university prepared the lecture.

She instantly downloaded the courses and arranged her lecture in an organised way, and next day, she went to attend her class with more confidence.

Story no. 6: Razib obtained his master's degree in Physics, but he felt a bit dejected for not having any course in Astrophysics in his university. He had long cherished desire to study the course. One day he came to know that a renowned professor of a famous university was going to run an online course in Astrophysics. He learnt that he might take the course, submit the homework and sit for the examination.

Razib instantly registered his name and started reading Astrophysics.

All the six events cited above are true. Do you still have any suspicion about the use of the Internet in education?

Group Activity

Write an essay on the steps that could have taken if all the students of Bangladesh had a laptop of their own.

Vocabulary: Astrophysics, Fiber Optics, Pluto

Lesson 56: The Internet in Education

Those who read the previous lesson very attentively have understood that the Internet is the most important of all the tools being used in education. It not only actively helps in teaching but also passively helps the educational institutions to run effectively.

The screenshot displays the Shikhhak.com website interface. At the top, there is a banner with the text 'শিক্ষক' (Shikhhak) and 'বাংলায় অনলাইনে মুক্ত জ্ঞানের মেলা' (Free knowledge online in Bengali). Below the banner, there is a navigation bar with links like 'বিশ্ববিদ্যালয়', 'গোষ্ঠী/ভারিফার', 'অন্যান্যদের কথা', and 'শিক্ষক যত চাইবে?'. A search bar is also present. The main content area features a video player showing a man in a blue patterned shirt speaking in front of a whiteboard. The video title is 'Introduction to computer programming'. To the right of the video, there is a sidebar with a 'স্বাগত চাক' (Welcome) section containing an email address input field and a 'গোষ্ঠী/ভারিফার' (Group/Verify) section with a list of courses and their status.

Teachers of different disciplines run the relevant courses in the website of Shikhhak.com

Now you get the results of public examinations instantly by using the Internet. It was unimaginable a few days ago. People living in the periphery would come to the city to collect it. Now it can be known just through a SMS or by a click of the mouse.

Now the Internet plays a very vital role not only in publishing results but also in completing the admission process quickly. You are familiar with the registration process in universities through mobile phones. Similarly, thousands of students can complete their process by using the Internet. At least 4 lakh students appear at the admission test of the National University of our country. Do you know that all of them use the Internet for the exam?

The image shows a screenshot of the National University's student registration website. At the top, there is a banner with the university's logo on the left, the name 'জাতীয় বিশ্ববিদ্যালয়' (National University) in Bengali, and 'National University' in English. Below the banner, there is a 'Home' link and a 'Student Registration' section. The registration form is divided into two columns: 'SSC Information' and 'HSC Information'. Each column contains three input fields: 'Roll' (text), 'Board' (dropdown menu), and 'Year' (dropdown menu). For SSC, the board is set to 'Dhaka' and the year is '2009'. For HSC, the board is set to 'Dhaka' and the year is '2011'. A 'Submit' button is located at the bottom center of the form.

At least 4 lakh applications for the admission test to the National University were processed through Information Technology

Students want to have the information of the institution before getting admission there. Once people would physically go there to collect the information, but now you can get the information of the institutions located in the farthest corner of the world by using the Internet sitting in your home.

We have availed of many advantages of the technology, and very soon, we are going to enjoy more facilities. Virtual classrooms are coming into being in our universities, and they will be interconnected with each other. When a teacher will teach in his classroom, only the students present there will not listen to him, hundreds of students throughout the country will attend his class sitting in the virtual classrooms.

Students of the medical college will get the opportunity to watch a critical surgery from a long distance. A learner can watch a planet or a star of the remote galaxy through the telescope set on the peak of a mountain. A student can successfully accomplish an experiment of a modern lab sitting in his reading room. He/She can easily collect the book which is not available in the school library.

Are you perplexed thinking how people would study when there were no facilities of the Internet?

Group Activity

Design a wall magazine imagining what role the information technology may play after one hundred year.

Vocabulary: Virtual Classroom, Telescope, Galaxy

Lesson 57-70: Searching Academic Information by Using Web Browser

Academic Information in the Internet

The Internet is a big source of information. It contains information of almost all the subjects of the world including education, sports, culture, religion, and so on. We can get valuable information of education i.e. system of education, way of education, curriculum, syllabus etc. by browsing the Internet.

The information is kept in the Internet arranging in different ways. One is written information i.e. information in the black and white. It has variety too. Some websites have information that is direct and specific such as Newton's laws of motion. Some websites facilitate explanations and examples of the laws. Besides, many subjects are available in the Internet as video image format. When an expert explains an academic subject, it is recorded in the video camera, and finally is uploaded in the video sharing site like youtube (www.youtube.com). Anybody can either watch or download it. There are cartoons or animated films on academic subjects in some websites where the syllabus is explained through animations. Some sites provide facilities of asking questions, quiz competition, and even aptitude test.

Courses on different disciplines are available in the Internet. Registering names in these courses, you can attend classes, and at the end of the course, sit for the examination. There are some sites in English language such as www.coursera.org, www.alison.com etc.

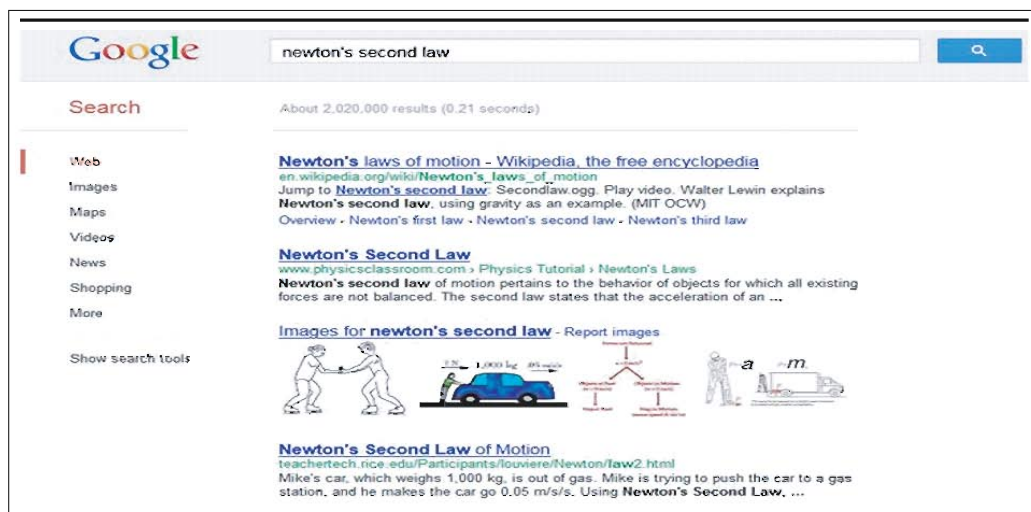


Any textbook of any class can be downloaded from this site

The world famous university of America, Massachusetts Institute of Technology (MIT) offers different courses in their website. Visiting <http://ocw.mit.edu/index.htm>, anybody from any country can complete the course after the registration.

Not only in English, academic curriculum in Bengali is flourishing too. All the academic textbooks of school level have been posted in the Internet as e-book format by the government. You can download your necessary e-book edition from the website, www.ebook.gov.bd.

Some academic courses have been running in Bengali language. www.shikkhok.com is a site like this where Mathematics, Environmental Science, Computer Technology etc. are being taught.



The easiest way of getting a bit of academic information is to look for information in a search engine. To search a bit of information, the name should be written in correct spelling.

An example of searching Newton's Laws of Motion in the search engine Google is shown here. It is also noticed that at least 2,00,000 websites or videos contain information of this item.

If you write in correct spelling, you will get numerous links about any required information. You need to be skilled in using search engine to find out information from the Internet. If you use it regularly, you will easily be skilled

in the Internet. You will get the links of information of education in the Internet through right browsing. The following are the education related websites:

Group Activity

Get the results of the following subjects after searching through one of your favorite search engine like Google, Yahoo, or anything else:

1. The Education Policy of Bangladesh
2. Origin of Matter
3. William Shakespeare
4. Kazi Nazrul Islam
5. Three States of Material

1. www.ebook.gov.bd : It is the website of e-books of Bangladesh. The digital editions of the textbooks of all the classes are found here. You can read the book on the monitor of the computer. You can download any of the

textbooks of your class. The academic books of your elder and younger brothers and sisters can be downloaded from the site too.

2. www.moedu.gov.bd: It is the website of the Ministry of Education of Bangladesh. All the policy making decisions and directives regarding the educational system are circulated through the site. People can collect information of the national education policy, creative system of examination, the dates of public examinations, results etc.

3. www.wikipedia.org, <http://bn.wikipedia.org>: It is the most enormous and free encyclopedia of the Internet. The people of the whole world volunteered to initiate the website. It provides people with information in almost two hundred languages. An English language version of the encyclopedia is very essential for us. You will get over 40 lakh articles in the English here, and some of the articles are education-related. There is a searching box in the wikipedia. After writing the name of the subject you want to search in the correct spelling, press the enter button, and you will get the search results. The wikipedia is not very enriched in Bengali. It has only 23000 articles, and can get your required information from there.

4. www.khanacademy.org: It is the most popular website of education in the world. Salman Khan, a Bangladeshi born educationist is the founder of the site.

He has explained different subjects including mathematics, history, healthcare,



Any academic video can be downloaded from the website of Khan Academy

physics, chemistry, Biology, economics, space-technology, computer science etc. by making 3400 video images. These videos are downloaded more than 18 crore times till now. You can download the videos that you require.

5. <http://khanacademy.org/intl/bn>: All the videos of Salman Khan are in English, but those are translated in different languages that included Bengali. This site will provide you with the Bengali translations of these lessons that are divided into four categories such as biology, chemistry, physics and organic chemistry. There is a list at the beginning of every link from where you may pick your essential videos. www.youtube.com/user/khanacademybangla has 1258 videos on mathematics, and you can download the required videos of algebra, arithmetic, statistics, trigonometry etc. from the website.

6. www.bbcjanala.com: It's a website of learning English language. There are plenty of websites in the Internet to learn English, but this site is useful for the learners of our country. There are some in this site courses to develop fluency in English Language. Anybody can attend the courses through free registration. After the completion of the course, you can take the printout of the course report. You can register for the course to enhance your fluency in English.

7. <http://mathforum.org/dr.math/DrMath>: It is a popular mathematics related website. Problems of algebra, geometry and calculus of school level have been explained clearly with examples in the website. If anything is not available in this site, consult Dr Math.

8. www.matholympiad.org.bd/forum: It is a website of discussion on mathematical problems, and the learners can ask questions to solve their problems. Teachers and volunteers of Bangladesh Mathematics Olympiad run the site. They discuss and give the solutions of the problems of Bangladesh and the International Mathematics Olympiad in this forum. Besides, they arrange competitions in regular intervals.

9. www.learningscience.org: You may have the practical knowledge of the subjects of science.

10. **The Ancient Elementary books**: Scientists and educationists of the world immensely contributed to develop science and knowledge, and they helped the civilization to advance. Their thought and experience were recorded in the books written by them. The digital versions of those fundamental books are found in the Internet. The links of some of those books are given below:

Elements by Euclid	http://aleph0.clarku.edu/~djoyce/java/elements/bookI/bookI.html
Principia Mathematica by Newton	http://www.scribd.com/doc/19058378/English-Translation-Version-Philosophi-Naturalis-Principia-Mathematica
The Origin of Species by Darwin	http://www.talkorigins.org/faqs/origin.html

The digital version like these books can be collected from the internet free of cost now. You can download the books by using search engine in a right way.

Sample Questions:

1. Which website can the textbooks of the school and the Madrasa be downloaded from?

- Secondary and Higher Secondary Education Board, Dhaka
- Madrasa Education Board
- Board of Technical Education
- National Curriculum and Textbook Board

2. What are the textbooks of School and Madrasa posted in the website called?
- a. e-book b. Internet book
c. NCTB book d. digital book
3. Through the Internet, you may ?
- a. get help of your academic subject.
b. complete the admission process.
c. attend online classes.

Which one is correct?

- a. i & ii b. i & iii
c. ii & iii d. i, ii & iii

Read the chapter below, and answer the question nos. 4 & 5:

Aoni frequently cuts a sorry figure in Mathematics and English. His parents sharply rebuke him. He does not like to learn Mathematics in the conventional way. He wants to learn it with delight. His earnest inclination is that he will amaze everyone by participating in the Mathematics Olympiad after mastering the subject well.

4. Aoni can solve his problem by ?
- a. using the Internet.
b. taking help of the friends through cell phones.
c. using the computer.

Which one is correct?

- a. i & ii b. i & iii
c. ii & iii d. i, ii & iii

5. Which one is the useful website for Aoni to learn Mathematics?
- a. www.matholympid.org.bd
b. www.khanacademy.org
c. www.mathforum.org/dr.math
d. www.khanacademy.org/intl/bn

2018

Academic Year

7-ICT

রূপকল্প-২০২১ বাস্তবায়নে তথ্যপ্রযুক্তির কোনো বিকল্প নেই
—মাননীয় প্রধানমন্ত্রী শেখ হাসিনা

নারী ও শিশু নির্যাতনের ঘটনা ঘটলে প্রতিকার ও প্রতিরোধের জন্য ন্যাশনাল হেল্পলাইন সেন্টারে
১০৯ নম্বর-এ (টোল ফ্রি, ২৪ ঘণ্টা সার্ভিস) ফোন করুন



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